

Appendix A

**Rule 132 Declaration A - Measurements Demonstrating Superior Performance
of The Invention**



In the United States Patent and Trademark Office

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Examiner: Berhane, Adolf D., Art Unit 2838

**Rule 132 Declaration A - Measurements Demonstrating Superior Performance
of The Invention**

James Arthur declares as follows:

1. I am the inventor in the above patent application.
2. A CMG Equipment, LLC, "Infinity Task Light" model LED flashlight, a commercial unit employing the prior art converter detailed in US 6,366,028 B1, Wener, et. al, was obtained.
3. On or about January 10, 2002, Applicant measured performance of same for supply voltages from 0.50 to 1.60 volts, at 0.02 volt increments. Measurements of power supply current drain, and optical output, were taken and recorded at each supply voltage.
4. At selected power supply voltages, additional measurements were made and recorded of the circuit's operational characteristics, including:
 - a. Frequency of operation
 - b. Switching waveforms
5. Graph 401 of Figure 4 of the application reflects the actual measured current drain of the Wener device, plotted against its power supply voltage.

6. A prototype of the Invention was constructed on or about June 13, 2002.
7. On June 21, 2002, Applicant measured performance of the Invention for supply voltages from 0.40 to 1.55 volts, at 0.005 volt increments.
8. Graph 402 of Figure 4 of the application reflects the actual measured current drain of the Invention, versus its power supply voltage.
9. For each indicated supply voltage Vcc in volts, the following measurements were made of optical output *Oo* in arbitrary units, power consumption *P_{in}* in milliwatts, and efficiency figure-of-merit *n* expressing light-generated-per-unit-input-power, in arbitrary units:

TABLE A-1

<u>Wener Device</u>				<u>The Invention</u>		
<u>Vcc</u>	<u>P_{in}</u>	<u>Oo</u>	<u>n</u>	<u>P_{in}</u>	<u>Oo</u>	<u>n</u>
0.55*	0.3*	--*	--*	6.4	0.12	19.0
0.60*	1.4*	--*	--*	15.2	0.38	24.7
0.70	3.1	0.04	12.7	40.7	1	24.6
0.80	5.0	0.08	15.5	54.7	1.28	23.5
0.90	8.8	0.14	16.1	61.1	1.44	23.6
1.00	15.1	0.25	16.8	68.4	1.6	23.3
1.10	25.7	0.43	16.5	77.3	1.75	22.7
1.20	42.7	0.65	15.2	86.2	1.91	22.2
1.30	66.7	0.9	13.5	97.1	2.07	21.3
1.40	95.8	1.15	12.0	107.9	2.28	21.1
1.50	129.6	1.38	10.7	125.3	2.51	20.0
1.55	149.1	1.49	10.0	133.9	2.66	19.9

* The Wener device was inoperative at these supply voltages.

10. I further declare that all statements made herein of my own knowledge are true and that all statements made upon information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application and any patent issuing therefrom.

Signature

James Arthur

James Arthur

Date

Nov. 8, 2005